

## **Subchapter T**

### **Use of Land over Closed Municipal Solid Waste Landfills**

#### **§330.951. Definitions.**

Unless otherwise noted, all terms contained in this section are defined by their plain meaning. This section contains definitions that are applicable only to this subchapter and which supersede definitions in §330.2 of this title (relating to Definitions) where those terms appear in this subchapter. As used in this subchapter, words in the singular include the plural and words in the plural include the singular. The following words and terms, when used in this subchapter, shall have the following meanings.

**Alteration** - Major reconstruction of an existing structure affecting the external frame or the foundation of the structure, or increasing the horizontal extent of the foundation. Standard redesign activities common in commercial structures, such as moving walls and doors, are not considered alterations.

**Closed Municipal Solid Waste Landfill (CMSWLF)** - A discrete area of land or an excavation that has received only municipal solid waste or municipal solid waste combined with other solid wastes, including but not limited to construction/demolition waste, commercial solid waste, nonhazardous sludge, conditionally exempt small-quantity generator hazardous waste, and industrial solid waste, and that is not a land application unit, surface impoundment, injection well, or waste pit as those terms are defined by 40 CFR §257.2.

**Closure plan** - A plan addressing the placement of a final cap on a CMSWLF where waste is exposed or the existing cap is inadequate.

**Construction** - The inception of an activity that provides improvements necessary for the utilization of an enclosed structure.

**Develop and/or development** - Any activity on or related to real property that is intended to lead to the construction or alteration of an enclosed structure for the use and/or occupation of people for an industrial, commercial, or public purpose or to the construction of residences for three or more families, including subdivisions that will include single-family homes and duplexes.

**Development permit** - A written permit issued by the commission that, by its conditions, may authorize a person or persons to develop an enclosed structure over a CMSWLF unit. The development permit does not supersede local building and development permits, but is an additional permit.

**Enclosed structure or structure** - Any permanent structure which is intended to be or has the potential of being used or occupied by people for an industrial, commercial, public, or residential purpose.

**Essential improvements** - All improvements and appurtenances including, but not limited to, the excavations for the structure, installation of utilities, on-site wastewater disposal facilities, grading and drainage improvements, access drives and parking lots, foundation, security, fencing, landscape plantings and irrigation systems necessary for the utilization of an enclosed structure.

**Existing structure** - Any enclosed structure that began development prior to September 1, 1993.

**Garbage** - Solid waste consisting of putrescible animal and vegetable waste materials resulting from the handling, preparation, cooking, and consumption of food, including waste materials from markets, storage facilities, handling, and sale of produce and other food products.

**Hazardous waste** - Any solid waste identified or listed as a hazardous waste by the administrator of the United States Environmental Protection Agency (EPA) pursuant to the Federal Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, 42 USC §6901 et seq, as amended.

**Industrial Solid Waste (ISW)** - Solid waste resulting from or incidental to any process of industry or manufacturing, or mining or agricultural operation, which may include hazardous waste.

**Municipal Solid Waste (MSW)** - Solid waste resulting from or incidental to municipal, community, commercial, institutional, and recreational activities, including garbage and rubbish, ashes, street cleanings, dead animals, abandoned automobiles, and all other wastes other than industrial solid wastes.

**Permitted development** - An enclosed structure or group of enclosed structures that have been issued a development permit.

**Rubbish** - Nonputrescible solid waste (excluding ashes), consisting of both combustible and noncombustible waste materials.

**Site Operating Plan (SOP)** - A prepared document that provides guidance for operations and procedures necessary to maintain human safety and environmental protection at the development, permitted development, or existing structure in a manner consistent with the development permit and the commission's regulations.

**Structures Gas Monitoring Plan (SGMP)** - A document prepared by a registered professional engineer that provides procedures to ensure the detection of landfill gases and the prevention of migration of landfill gases into enclosed structures.

Adopted April 19, 1995

Effective May 17, 1995

### **§330.952. Applicability and Exemptions.**

(a) Applicability. The requirements in this subchapter apply to:

(1) persons owning, leasing, or developing property or structures overlying a CMSWLF, except as noted in subsection (b) of this section;

(2) persons developing a tract of land greater than one acre, except as noted in subsection (b) of this section;

(3) local government officials; and

(4) professional engineers.

(b) Exemptions. The following persons shall be exempt from certain requirements of this subchapter:

(1) An owner of property constructing a single-family or double-family home, other than a developer of a housing subdivision, shall be exempt from §330.953 of this title (relating to Soil Test

Required Before Development), §330.954 of this title (relating to Development Permit and Registration Requirements, Procedures, and Processing), and §330.960 of this title (relating to Operational Requirements for an Enclosed Structure Built Over a Closed Municipal Solid Waste Landfill Unit).

(2) An owner of an existing structure built over a CMSWLF unit and that is a single-family or double-family home shall be exempt from §330.954, §330.959 of this title (relating to Requirements for Registration of an Existing Structure Built Over a Closed Municipal Solid Waste Landfill Unit) and §330.960.

(3) An owner/operator of a Type I, II, III, or IV municipal solid waste landfill facility that has received a municipal solid waste permit under §330.4 of this title (relating to Permit Required) and is currently in post-closure care, is exempt from the requirements of this subchapter. The owner/operator must comply with the provisions of §330.255 of this title (relating to Post-Closure Land Use).

Adopted April 19, 1995

Effective May 17, 1995

**§330.953. Soil Test Required Before Development.**

(a) A person may not undertake the development of a tract of land that is greater than one acre in area unless the person conducts a soil test prior to or during development and construction. The soil test is intended to determine if a landfill exists on the property planned for development.

(b) A soil test under this section shall be conducted by a registered professional engineer (P.E.).

(c) The P.E. must choose one of the following tests:

(1) Test I. The P.E. shall observe all subsurface disturbances, undertaken for whatever reason, during development through the completion of the foundation. A subsurface investigation prior to construction is not required by Test I.

(2) Test II. A subsurface investigation undertaken for the purpose of finding a CMSWLF unit. The investigation must incorporate a sufficient number of borings or excavations, the number of which shall be determined on a site-specific basis by the P.E. Each boring or excavation shall be to a minimum depth of 10 feet.

(3) Test III. A subsurface investigation conducted at the development site for geotechnical or environmental purposes, or a Housing and Urban Development (HUD) test for a homeowner's warranty.

(d) Pursuant to Texas Health and Safety Code, §361.538(c), the Texas Engineering Practice Act, §22(a)(4), and in accordance with 22 TAC §131.156 (relating to Responsibility to the Engineering Profession), any engineer who conducts a soil test and determines that part of the tract overlies a CMSWLF shall notify the following persons of that determination within 30 days of the completion of the test:

- (1) each owner and each lessee of the tract;
- (2) the executive director of the commission;
- (3) local government officials with the authority to disapprove the application for development; and
- (4) the regional council of governments.

(e) The responsible engineer shall affix his seal, signature, and date of execution to the soil test results as required by the Texas Engineering Practice Act, §15c, and in accordance with 22 TAC §131.138 (relating to Engineer's Seal).

(f) All soil test excavations where waste is removed shall be backfilled and compacted with clean CH or CL clay. The excavation shall be backfilled to exceed the existing grade and provide positive drainage.

Adopted April 19, 1995

Effective May 17, 1995

**§330.954. Development Permit and Registration Requirements, Procedures, and Processing.**

(a) Permit Required for Development Over a CMSWLF Unit.

(1) No person may commence or continue physical construction of an enclosed structure over a CMSWLF unit without first submitting a development permit application in accordance with §330.956 of this title (relating to Permit Application for Development Over a Closed Municipal Solid Waste Landfill Unit) and receiving a development permit from the commission, except as noted in paragraph (5) of this subsection.

(A) The permit issued by the commission under this subchapter is a development permit and not a permit for the management of solid waste. A permit application for a development permit shall comply with those requirements in this subchapter. A permit application to manage municipal solid waste shall comply with the applicable sections of Chapter 281 and Chapter 305 of this title (relating to Applications Processing and Consolidated Permits), and Subchapters A through L of this chapter (relating to Municipal Solid Waste).

(B) A development permit is not required for an enclosed structure that is to be built on a tract of land that contains a CMSWLF, if the enclosed structure is not built over the waste disposal area.

(2) The permit application under this subchapter must be received at least 45 days prior to the proposed commencement of construction over the CMSWLF unit.

(3) If a person directs his engineer to conduct Soil Test I, and the soil test reveals the existence of a CMSWLF unit after the commencement of construction, construction of the enclosed structure being built over the CMSWLF shall cease immediately, and a permit application shall be submitted and a development permit issued before construction of the enclosed structure over the CMSWLF unit can resume. The person may proceed with construction and development of other facilities including those items listed in the definition of essential improvements.

(4) If a person directs his engineer to conduct either Soil Test II or Soil Test III and the engineer discovers a CMSWLF unit as a result of the test, he shall submit a permit application. Development of an enclosed structure over the CMSWLF unit cannot begin until a development permit is issued.

(5) If a person directs his engineer to conduct either Soil Test II or Soil Test III and the engineer does not detect a CMSWLF unit as a result of the test, but subsequently discovers a CMSWLF unit during the development, the person is not required to submit a permit application but must meet the provisions of §330.959 of this title (relating to Requirements for Registration of an Existing Structure Built Over a Closed Municipal Solid Waste Landfill Unit).

(6) As part of the application, the applicant shall provide the name and physical and mailing addresses of a public building with normal operating hours such as library, city hall, or county courthouse where the application can be viewed by the general public, and information on the location for the public hearing including physical and mailing addresses and the name and phone number of a contact person. The facilities where the public hearing will be held and where the permit can be viewed shall be in compliance with all applicable requirements of the Americans With Disabilities Act. The application shall also include an adjacent land-owner list.

(7) The Health and Safety Code, Section 361.532, requires the TNRCC to charge an application fee equal to the actual cost of reviewing the application prior to the issuance of a development permit. The applicant shall submit an initial application fee of \$2500 to be submitted in the form of a check or money order made payable to the Texas Natural Resource Conservation Commission. Upon completion of the review process, including the public hearing, the commission will present the applicant with a refund for an overcharge, or an invoice for an undercharge.

(8) If the municipal solid waste facility is covered by an existing permit for the management of solid waste, no person may commence physical construction of an enclosed structure without submitting an amendment application for the existing permit in accordance with §§330.50-330.65 of this title (relating to Permit Procedures) and receiving the amended permit from the commission.

(b) Review and Approval of Permit Application.

(1) The commission shall set a public hearing to be held not later than the 30th day after the application has been received.

(2) The commission shall notify the applicant by mail of the date and time of the hearing not later than the 15th day before the hearing.

(3) The commission shall publish notice of the hearing in a newspaper that is generally circulated in the county in which the property proposed for development is located. The published notice must appear at least once a week for the two weeks before the date of the hearing. The commission shall also notify all individuals on the list of adjacent land-owners at least 15 days prior to the hearing. The notice shall list the location, date, and time of the public hearing, and the location of the public building where the development permit application can be viewed.

(4) TNRCC Municipal Solid Waste staff will conduct the public hearing at the designated location. The applicant will make a presentation of their application, TNRCC staff will describe the development permit, and public comment will be received. The public hearing is not an evidentiary proceeding.

(5) On or before the fifth day following the public hearing but not later than thirty five days following receipt of the application by the commission:

(A) The executive director will issue his decision either to approve or to deny the development permit application. The executive director shall base his decision on whether the application meets each of the requirements of §330.956 of this title (relating to Permit Application for Development Over a Closed Municipal Solid Waste Landfill Unit) and §330.957 of this title (relating to Technical Requirements of Part A of the Application). A decision denying the permit shall state the deficiencies that were cause for the denial and any modifications necessary to correct those deficiencies.

(B) A person may submit in writing to the chief clerk of the commission a request to be notified of the executive director's decision on the application.

(6) The date on which the executive director issues the order shall be construed as the date on which notice of the decision is mailed to the applicant and to each person who requested notification of the Executive Director's decision pursuant to paragraph (5)(B) of this subsection.

(7) Petition for review of executive director's decision.

(A) The applicant or a person may file a petition for review not later than the 10th day after the date the executive director issues the order. The applicant or person who files a petition shall file the petition with the chief clerk of the commission, and shall mail a copy of the petition to the applicant and to each person who requested notification of the Executive Director's decision pursuant to paragraph (5)(B) of this subsection (relating to Development Permit and Registration Requirements, Procedures, and Processing).

(B) If a petition for review is filed, the commission shall act on the petition for review within 35 days after issuance of the executive director's order or at the next scheduled commission meeting, whichever is later. The commission may affirm or reverse the order issued by the executive director.

(C) A commission order ruling on a petition for review is final and effective on the date issued.

(8) no petition for review is filed 10 days after the executive director issues his decision, the decision is final and effective on the 11th day after the date the decision was issued.

(9) If the actual cost of reviewing the permit is not equal to the application fee, the applicant will be presented with either a refund or an invoice pursuant to subsection (a)(7) of this section (relating to Development Permit and Registration Requirements, Procedures, and Processing). If an invoice is submitted, a development permit will not be issued until the invoice is paid.

(10) An applicant who is denied a development permit may submit a new application to the commission.

(c) Registration for Existing Structures.

(1) The owner or lessee of an existing structure that existed or began development prior to September 1, 1993 and is built over a CMSWLF unit, shall submit a registration application to the TNRCC. The registration application shall be submitted to the executive director and shall include those items listed in §330.959 of this title (relating to Requirements for Registration of an Existing Structure Built Over a Closed Municipal Solid Waste Landfill Unit). This paragraph is not intended to require that owners and lessees of enclosed structures initiate investigations for CMSWLFs.

(2) A registration issued by the commission under this subchapter is a not a registration for the management of solid waste. A registration application for an existing structure shall comply with those requirements in this subchapter. A registration application to manage municipal solid waste shall comply with the applicable sections of Chapter 281 and Chapter 305 of this title, and Subchapters (A) - (L) of this chapter.

(3) The owner shall submit the registration within 180 days from one of the following dates:

(A) the effective date of these regulations; or

(B) determination that the structure overlies a CMSWLF.

(4) Upon receipt of written approval of the SGMP or approval with modifications to the SGMP from the executive director, the owner or lessee of the existing structure shall implement the plan in accordance with its approved schedule.

Adopted April 19, 1995

Effective May 17, 1995

**§330.955. Prohibitions.**

(a) The integrity of the final cover of a CMSWLF shall not knowingly be violated, disturbed, altered, removed, or interrupted in any way without the prior written approval of the executive director,

except where soil tests are being performed in accordance with §330.953 of this title (relating to Soil Test Required Before Development).

(b) Penetrations of the final cover or liner systems will not be allowed without the prior written approval of the executive director. These include, but are not limited to, borings, piers, spread footings, foundations for light standards, fence posts, anchors, deadman anchors, manholes, on-site disposal systems, recreational facilities, etc.

(c) Any non-hazardous municipal solid waste removed from a CMSWLF for any reason including residuals from a soil test shall not be deposited in or reapplied on the CMSWLF but must be properly transported to a permitted municipal solid waste facility. Any industrial or hazardous waste removed from the CMSWLF shall be transported and disposed in accordance with Chapter 335 of this title (relating to Industrial and Municipal Solid Waste).

(d) An enclosed area to be occupied by people under the natural grade of the land or under the grade of the final cover of the CMSWLF will not be allowed.

Adopted April 19, 1995

Effective May 17, 1995

**§330.956. Permit Application for Development Over a Closed Municipal Solid Waste Landfill Unit.**

(a) Development permit application. The application is divided into Parts A and B. Part A shall be submitted prior to the public hearing. The applicant shall be required to comply with the design, construction, and operating procedures proposed in his application. Part B shall be submitted upon completion of construction of the structure.

(b) Responsibilities of applicant. The applicant is responsible for providing the executive director data of sufficient completeness, accuracy, and clarity to provide assurance that operation of the site will pose no reasonable probability of adverse effects to the health, welfare, or physical property of residents and occupants of the structures, and the environment. Failure to provide complete information as required by this subchapter may be cause for the executive director to return the application without further action. Submission of false information shall constitute grounds for denial or revocation of the development permit.

(c) Special design considerations. The applicant is responsible for determining and reporting to the executive director any site-specific conditions that require special design considerations. The proposed development shall be in compliance with all applicable state and federal laws.

(d) Number of copies. Three copies of the application shall be submitted to the executive director. Upon the request of the executive director, the applicant shall furnish additional copies of the application.

(e) Preparation. Preparation of the application shall conform with the Engineering Practice Act, Texas Civil Statutes, Article 3271a.



(1) The responsible engineer shall affix his seal, sign his name, place the date of execution, and state the intended purpose on each sheet of engineering plans and drawings, and on the title or contents page of the application as required by the Texas Engineering Practice Act, §15c, and in accordance with 22 TAC §131.138 (relating to Engineer's Seal).

(2) Applications that have not been sealed shall be considered incomplete for the intended purpose and shall be retained by the commission for referral and potential inspection by the Texas State Board of Registration For Professional Engineers.

(f) Application format.

(1) Applications shall be submitted in three-ring loose-leaf binders.

(2) The narrative of the report shall be printed on 8-1/2 by 11-inch white paper. Drawings or other sheets shall be no larger than 11 by 17 inches so that they can be reproduced by standard office copy machines.

(3) All pages shall contain a page number and date.

(4) Revisions shall have the revision date and note in the header or footer of each revised sheet that the sheet is revised. The revised text shall be marked to highlight the revision.

(5) Dividers and tabs are encouraged.

(g) Application drawings and maps.

(1) All information contained on a drawing shall be legible, even if it has been reduced. If color-coding is used, it shall be legible and the code distinct when reproduced on black and white photocopy machines.

(2) Drawings shall be submitted at a standard engineering scale.

(3) Each drawing shall have a:

(A) dated title block;

(B) bar scale at least one inch long;

(C) revision block indicating the "Revision Number" and date of drawing revision. A triangle with the revision number prominently shown inside the triangle shall be placed near the revised area of the drawing. A brief narrative description of each revision shall be noted on the revised drawing;

(D) responsible engineer's seal, if required; and

- (E) a drawing number and a page number.
- (4) Each map or plan drawing shall also have:
  - (A) a north arrow, preferably pointing toward the top of the page;
  - (B) a reference to the base map source and date if the map is based upon another map. The latest published edition of the base map should be used;
  - (C) a legend; and
  - (D) two longitudes and latitudes on all general location maps.
- (5) The maps submitted as a group shall show the following:
  - (A) the prevailing wind direction with a wind rose;
  - (B) all known water wells within 500 feet of the proposed development permit boundary. The state well-numbering system designation for Texas Water Development Board "Located Wells," where applicable, shall be shown;
  - (C) area streams, ponds, lakes, and wetlands;
  - (D) the property boundary of the site;
  - (E) drainage, pipeline, and utility easements within or adjacent to the site; and
  - (F) schools, licensed day care facilities, hospitals and other health care facilities within 1,000 feet of the boundaries of the known fill area.
- (6) Match lines and section lines shall reference the drawing where the match or section is shown. Section drawings should note from where the section was taken.

Adopted April 19, 1995

Effective May 17, 1995

**§330.957. Technical Requirements of Part A of the Application.**

(a) Preamble.

(1) Title page. The title page shall show the name of the project, the TNRCC development permit application number if known, the name of the applicant, the location by city and county, the date the part was prepared, and, if appropriate, the number and date of the revision. It shall be sealed as required by the Texas Engineering Practice Act.

(2) Table of contents. The table of contents shall list and give the page numbers for the main sections of the application. It shall be sealed as required by the Texas Engineering Practice Act.

(3) Certification. Pursuant to the Health and Safety Code, §361.533, the registered professional engineer preparing a development permit application shall include the following certification: Certification of No Potential Threat to Public Health or the Environment. "I, \_\_\_\_\_, P.E. #\_\_\_\_\_, certify that the proposed development is necessary to reduce a potential threat to public health or the environment, or that the proposed development will not increase or create a potential threat to public health or the environment. Further, I certify that the proposed development will/will not damage the integrity or function of any component of the Closed Municipal Solid Waste Landfill Unit, including, but not limited to, the final cover, containment systems, monitoring system, or liners. This certification includes all documentation of all studies and data on which I relied in making these determinations." (signed, sealed, and dated by the registered professional engineer).

(4) Existing conditions summary. The applicant shall discuss any land use, environmental, or special issues that affect the site. This shall include but not be limited to:

- (A) condition of final cover;
- (B) waste characterization;
- (C) gas production; and
- (D) potential environmental impacts.

(b) Legal authority. The applicant shall provide verification of his/her legal status. Normally, this is a one-page certificate of incorporation issued by the Secretary of State.

(c) Evidence of competency. The names of the principals and supervisors of the applicant's organization relative to the development shall be provided.

(d) Notice of Appointment. The applicant shall provide a notice of appointment identifying the applicant's engineer.

(e) Notice of coordination. The applicant shall provide notice of coordination with all local, state, and federal government officials and agencies.

(f) Legal description. The applicant shall:

(1) provide the legal description of the property and the county, book, and page number of the current ownership record from the county deed records or a certified copy of the written notice submitted to the county deed records required by §330.961 of this title (relating to Notice to Real Property Records);

(2) for property that is platted, provide the county, book, volume, and page number of the final plat record of that acreage encompassed in the application and a copy of the final plat document in addition to a written legal description;

(3) provide a boundary metes and bounds drawing and description of the site signed and sealed by a Registered Professional Land Surveyor; and

(4) provide a boundary metes and bounds drawing and description of the limits of the waste disposal area on the site signed and sealed by a Registered Professional Land Surveyor.

(g) Site drawing. The applicant shall provide a site drawing, drawn to scale, that indicates the location of all waste disposal areas, existing and proposed structures, creeks, and ponds.

(h) Maps. All maps shall clearly show the boundaries of the tract of land under development and the actual fill areas.

(1) General location maps. These maps shall be all or a portion of county maps prepared by Texas Department of Transportation (TxDOT). At least one general location map shall be at a scale of one-half inch equals one mile. If the TxDOT publishes more detailed maps of the proposed site area, the more detailed maps shall also be included. The latest published revision of all maps shall be used. In addition, the applicant shall provide maps as necessary to accurately show proximity of the site to surrounding features and structures.

(2) General topographic maps. These maps shall be United States Geological Survey 7-1/2 minute quadrangle sheets or equivalent. At least one general topographic map shall be at a scale of one inch equals 2,000 feet.

(i) Aerial photograph. Applicants shall provide an aerial photograph approximately nine inches by nine inches with a scale within a range of one inch equals 1,667 feet to one inch equals 3,334 feet and showing the area within at least a one-mile radius of the site boundaries. The site boundaries and actual fill areas shall be marked. Photocopies of photographs are not acceptable substitutes for photographs.

(j) General geology and soils statement. The application shall include a discussion in general terms of the geology and soils of the proposed site, including any known pathways for leachate and landfill gas migration.

(k) Groundwater and surface water statement. The application shall include a description of the groundwater and surface water resources at or near the site and how they will be impacted by the development.

(l) Foundation plans. The applicant shall provide foundation plans, including geotechnical soil investigation and design reports.

(1) In order to prevent gas migration into buildings and other structures, structures shall be designed and constructed in accordance with the following criteria.

(A) A geomembrane or equivalent system with very low gas permeability shall be installed between the slab and the subgrade, and a permeable layer of a minimum thickness of 12 inches, composed of an open-graded, clean aggregate material, shall be installed between the geomembrane and the subgrade.

(B) A geotextile filter shall be utilized to prevent introduction of fine soil or other particulate matter into the permeable layer.

(C) A landfill gas ventilation or active collection system shall be installed consistent with the Structures Gas Monitoring Plan required by subsection (s) of this section.

(2) Alterations of existing structures are exempt from the requirements of paragraph (1) of this subsection.

(3) An applicant who requests suspension of gas monitoring based upon the demonstration required by subsection (s)(1)(B) of this section (relating to Technical Requirements of Part A of the Application), may submit to the commission a request for a variance from the requirements of paragraph (1) of this subsection. The commission shall base its decision on site-specific factors including, but not limited to, age of the CMSWLF, type of waste deposited in the CMSWLF, and testing methods utilized by the applicant.

(m) Other plans. The application shall include plans the following:

(1) grading and drainage;

(2) irrigation systems; and

(3) a dimensional control plan of the site relating all existing and/or proposed enclosed structures and essential improvements of the development, and the locations of all required improvements and appurtenances, to the legal description boundary of the site and the limits of the waste disposal area, signed and sealed by a registered professional land surveyor.

(n) Soil tests. The applicant shall provide all soil tests and/or other information relied upon to make the determination that the site was used as a municipal solid waste disposal area as required by §330.953 of this title (relating to Soil Test Required Before Development), including procedures performed to identify the limits of the waste disposal area.

(o) Certified copies of required notices. The applicant shall provide certified copies of all notices having been made by the professional engineer, by the owner, and by the lessor/lessee in accordance with §330.953 of this title (relating to Soil Test Required Before Development), §330.961 of this title (relating to Notice to Real Property Records), §330.962 of this title (relating to Notice to Buyers, Lessees, and Occupants), and §330.963 of this title (relating to Lease Restrictions).

(p) Closure plan. The applicant shall provide a closure plan for any part of the waste disposal area that will not have a structure built over it, including placement of the final cover.

(q) Operational requirements plan. The applicant shall provide a plan discussing the necessary procedures and practices to be implemented and followed to ensure that the applicant meets the provisions of §330.960 of this title (relating to Operational Requirements for an Enclosed Structure Over a Closed Municipal Solid Waste Landfill Unit).

(r) Site Operating Plan (SOP). The applicant shall provide a Site Operating Plan, which at a minimum shall include specific guidance, procedures, instructions, and schedules for the following:

(1) a description, including size, type, and function, of the equipment to be utilized at the structure other than methane monitoring equipment;

(2) a detailed description of the procedures that the operating personnel shall follow to utilize the equipment; and

(3) a plan to implement and maintain the operational requirements of §330.960 of this title (relating to Operational Requirements for an Enclosed Structure Over a Closed Municipal Solid Waste Landfill Unit).

(s) Structures Gas Monitoring Plan. The applicant shall provide a Structures Gas Monitoring Plan in accordance with the following.

(1) General.

(A) The owner or lessee of a new structure to be built over a CMSWLF unit shall ensure that the concentration of methane gas generated by the CMSWLF unit does not exceed 20% of the lower explosive limit for methane (1% by volume methane in air) in facility structures (excluding gas control or recovery system components) overlying the CMSWLF unit.

(i) Any new enclosed structures shall contain automatic methane gas sensors approved by the commission and designed to trigger an audible alarm if the volumetric concentration of methane in the air is greater than 1% (20% of the Lower Explosive Limit (LEL)).

(ii) Any new enclosed structures built over a CMSWLF shall utilize a ventilation system or an active gas extraction and collection system.

(B) Landfill gas monitoring requirements for a development applying for a development permit under this subchapter may be suspended by the executive director if the applicant can demonstrate that there is no potential for migration of the landfill gases listed in paragraph (2)(G) of this subsection. This demonstration shall be certified by a registered professional engineer and approved by the executive director, and shall be based upon site-specific field-collected measurements, sampling, and analysis of physical, chemical, and biological processes.

(2) Requirements for Structures Gas Monitoring Plan (SGMP). The owner or lessee shall submit a SGMP, designed by a registered professional engineer, to the commission for review and approval. The SGMP shall ensure detection of the presence of landfill gas entering on-site structures. All design drawings shall bear the registered engineer's seal and signature. The SGMP shall include, but not be limited to, the following:

(A) a discussion of specific site characteristics and potential migration pathways or barriers in the development of the SGMP, including, but not limited to:

- (i) locations of buildings and structures relative to the waste disposal area;
- (ii) the nature and age of waste and its potential to generate landfill gas;
- (iii) routes of entry for the intrusion of landfill gas into structures;
- (iv) ignition sources within structures;

(v) the location of any utility lines or pipelines that cross, are adjacent to, or are near the CMSWLF unit;

(vi) number of people occupying the structures and duration of occupation; and

(vii) depth of final cover over deposited waste;

(B) a narrative describing design characteristics of proposed structures related to landfill gas accumulation prevention, detection and elimination including, but not limited to:

- (i) structural;
- (ii) electrical; and
- (iii) mechanical;

(C) a description of the ventilation system or active gas collection and destruction system to be utilized including engineering drawings and manufacturer's specification sheets. Active gas collection and destruction systems shall comply with applicable parts of §§115.152-115.159 of this title (relating to Control of Air Pollution from Volatile Organic Compounds);

(D) a description of landfill gas monitoring equipment to be used in existing and proposed structures, complete with manufacturer's specification sheets;

(E) a detailed implementation schedule for the installation of landfill gas monitoring equipment;

(F) a sampling and analysis plan for determining landfill gas components which includes provisions for:

- (i) sample withdrawal equipment and techniques;
- (ii) sampling protocol for field measurements of diluted gas emissions; and
- (iii) a Quality-Assurance\Quality-Control Sampling Plan to include, but not be limited to:
  - (I) field sampling;
  - (II) analytical methods;
  - (III) quality-control samples and methods;
  - (IV) laboratory data reduction; and
  - (V) documentation required; and

(G) a complete analysis of the landfill gas to include, but not be limited to:

- (i) a mass balance analysis for major components such as methane, other light hydrocarbons, carbon monoxide, and water vapor measured with fairly high precision (i.e., 5-10% relative error);
- (ii) trace analyses for hydrogen sulfide, mercaptans, and ammonia; and
- (iii) analysis for volatile organic compounds using an evacuated steel canister collection device (similar to EPA Method T014) and gas chromatography/mass spectrometry detection system.

(t) Safety and evacuation plan. The applicant shall provide a plan describing evacuation procedures and safety measures in the event the methane gas sensors sound the audible alarms.

Adopted April 19, 1995

Effective May 17, 1995

**§330.958. Technical Requirements of Part B of the Application.**

Construction Plans and Specifications of the proposed or modified structure shall be prepared and one copy maintained at the structure at all times during construction. After completion of construction, one set of as-built construction plans and specifications shall be submitted to the executive director and another set shall be maintained at the permitted development. Plans retained by the executive director shall be made available for inspection by representatives, interested parties, and the public. Plans maintained at the structure shall be made available for inspection by the TNRCC representatives.



Adopted April 19, 1995

Effective May 17, 1995

**§330.959. Requirements for Registration of an Existing Structure Built Over a Closed Municipal Solid Waste Landfill Unit.**

The registration application shall consist of the following:

(1) the owner's name, company name, mailing address, physical street address, city, state, ZIP Code, and name, title, and telephone number of a contact person;

(2) a legal description as set forth in §330.957(f) of this title (relating to Technical Requirements of Part A of the Application);

(3) certified copies of all notices having been made by the owner and the lessor/lessee in accordance with §330.961 of this title (relating to Notice to Real Property Records), §330.962 of this title (relating to Notice to Buyers, Lessees, and Occupants), and §330.963 of this title (relating to Lease Restrictions);

(4) a Site Operating Plan (SOP) as set forth in §330.257(r) of this title (relating to Technical Requirements of Part A of the Application);

(5) a Structures Gas Monitoring Plan (SGMP).

(A) General.

(i) The owner or lessee of an existing structure built over a CMSWLF unit shall ensure that the concentration of methane gas generated by the structure does not exceed 20% of the lower explosive limit for methane (1% by volume methane in air) in facility structures (excluding gas control or recovery system components). Any new enclosed structures shall contain automatic methane gas sensors approved by the commission and designed to trigger an audible alarm if the volumetric concentration of methane in the air is greater than 1% (20% LEL).

(ii) Landfill gas monitoring requirements for a registration under this section may be suspended by the executive director as provided for in §330.957(s)(1)(B) of this title (relating to Technical Requirements of Part A of the Application).

(B) Requirements for Structures Gas Monitoring Plan (SGMP). The owner or lessee shall submit a SGMP, designed by a registered professional engineer, to the commission for review and approval. The SGMP shall ensure detection of the presence of landfill gas entering on-site structures. All design drawings should bear the registered engineer's seal and signature. The SGMP shall include, but not be limited to, the following:

(i) an analysis of specific site characteristics and potential migration pathways or barriers as set forth in §330.957(s)(2)(A) of this title (relating to Technical Requirements of Part A of the Application);

(ii) a site drawing, drawn to scale, which indicates the location of all waste disposal areas, existing structures, creeks, and ponds;

(iii) a narrative describing modifications to the existing structures including, but not limited to, the following:

(I) structural;

(II) electrical;

(III) mechanical; and

(IV) landfill gas monitoring equipment including manufacturer's specification sheets and any gas ventilation or active gas extraction systems if the development utilizes such systems;

(iv) a detailed implementation schedule for the installation of landfill gas monitoring equipment;

(v) a sampling and analysis plan as set forth in §330.957(s)(2)(F) of this title (relating to Technical Requirements of Part A of the Application); and

(vi) a landfill gas analysis as set forth in §330.957(s)(2)(G) of this title (relating to Technical Requirements of Part A of the Application); and

(6) a safety and evacuation plan describing evacuation procedures and safety measures in the event the methane gas sensors sound the audible alarms.

Adopted April 19, 1995

Effective May 17, 1995

**§330.960. Operational Requirements for an Enclosed Structure Over a Closed  
Municipal Solid Waste Landfill Unit.**

(a) General.

(1) The development permit or registration, the SOP, any closure plan, the SGMP, the safety and evacuation plan and all other documents and plans required by this subchapter shall become operational requirements and shall be considered a part of the operating record of the development or structure. A copy of these documents shall be maintained on-site in an office at the permitted/registered development.

(2) The owner or operator shall retain the operating record for the life of the structure.

(3) Any deviation from the development permit/registration and incorporated plans or other related documents associated with the development permit or registration without approval of the executive director is a violation of this subchapter.

(4) The development permit or registration holder shall notify the executive director of any incident involving the site relative to the development permit or registration and provisions for the remediation of the incident.

(b) Landfill gas control. All landfill gases shall be monitored in accordance with the Structures Gas Monitoring Plan prepared as set forth in §330.957 of this title (relating to Technical Requirements of Part A of the Application) and §330.959 of this title (relating to Requirements for Registration for an Existing Structure Built Over a Closed Municipal Solid Waste Landfill Unit).

(1) Landfill gas monitoring.

(A) The owner or lessee of a new structure to be built or an existing structure built over a CMSWLF unit shall provide equipment for monitoring on-site structures, including but not limited to buildings, subsurface vaults, utilities, or any other areas where potential gas buildup would be of concern.

(B) Monitoring on-site structures may include, but is not limited to, periodic monitoring using either permanently installed monitoring probes or continuous monitoring systems.

(C) Structures located on top of the waste area shall be monitored on a continuous basis, and monitoring equipment shall be designed to trigger an audible alarm if the volumetric concentration of methane in the sampled air is greater than 1% within the venting pipe or permeable layer, and/or inside the structure. When practical, structures should be monitored after they have been closed overnight or for the weekend to allow for an accurate assessment of gas accumulation.

(D) Areas of the structure where gas may accumulate should be monitored and include, but are not limited to, areas in, under, beneath, and around basements, crawl spaces, floor seams or cracks, and subsurface utility connections.

(E) Gas monitoring and control systems shall be modified as needed to reflect modifications to the structure.

(2) Reporting.

(A) All on-site structures shall be sampled for methane on a monthly basis. All monthly sampling results shall be placed in the operating record of the site and submitted to the executive director. Sampling for specified trace gases may be required by the executive director when there is a possibility of acute or chronic exposure due to carcinogenic or toxic compounds.

(B) All reports shall be submitted in triplicate in loose-leaf three-ring binders to the executive director.

(c) Air criteria.

(1) The closed municipal solid waste landfill is subject to Texas Natural Resource Conservation Commission jurisdiction concerning burning and air pollution control. The owner or operator shall ensure that the CMSWLF does not violate any applicable requirement of the approved State Implementation Plan (SIP).

(2) Ventilation of the CMSWLF and any enclosed structures shall be provided in accordance with all appropriate Texas Natural Resource Conservation Commission rules and regulations.

(d) Pondered water. The ponding of water over waste in the CMSWLF unit, regardless of its origin, shall be prevented. Pondered water that occurs on a CMSWLF unit shall be eliminated as quickly as possible and the area in which the ponding occurred shall be filled in and regraded within seven days of the occurrence.

(e) Water pollution control. Surface drainage in and around the structure shall be controlled to minimize surface water running onto, into, and off the CMSWLF area.

(f) Groundwater monitoring. Groundwater monitoring may be required by the executive director and shall be conducted in accordance with the requirements of §§330.230-330.242 of this title (relating to Groundwater Monitoring and Corrective Action).

(g) Conduits. All conduits intended for the transport or carrying of fluids over or within the CMSWLF shall be double-containment (split casings shall not be used). To the extent possible, all such utilities shall be in fill material placed over the upgraded final cover.

(h) Recordkeeping requirements.

(1) The owner or lessee shall promptly record and retain in the operating record the following information:

(A) all results from gas monitoring and any remediation plans pertaining to explosive and other gases;

(B) all unit design documentation for the placement of gas monitoring systems and leachate or gas condensate removal or disposal related to the CMSWLF unit;

(C) copies of all correspondence and responses relating to the development permit;

(D) all documents relating to the operation and maintenance of the building, site, or monitoring systems as they relate to the development permit; and

(E) any other document(s) as specified by the approved development permit or by the executive director.

(2) The owner or operator shall provide written notification to the executive director for each occurrence that documents listed in subsection (h) of this section are placed into or added to the operating record. All information contained in the operating record shall be furnished upon request to the executive director and shall be made available at all reasonable times for inspection by the executive director or his representative.

Adopted April 19, 1995

Effective May 17, 1995

**§330.961. Notice to Real Property Records.**

(a) Owner of property. An owner of property that overlies a CMSWLF unit shall prepare and file for record in the real property records in the county where the land is located a written notice stating:

- (1) the former use of the land;
- (2) the legal description of the tract of land that contains the CMSWLF, and at the owner's discretion, the portion of the tract of land that contains the CMSWLF;
- (3) notice that restrictions on the development or lease of the land exist in the Health and Safety Code, Chapter 361, Subchapter R, and this subchapter; and
- (4) the name of the owner.

(b) Local government official. A local government official who receives notice under §330.953 of this title (relating to Soil Test Required Before Development) that a CMSWLF unit exists on a tract of land shall prepare and file for record in the real property records in the county where the land is located a written notice stating:

- (1) the legal description of the tract of land that contains the CMSWLF unit;
- (2) the current owner of the tract;
- (3) notice of the tract's former use as a municipal solid waste landfill unit; and
- (4) notice that restrictions on the development or lease of the land exist in the Health and Safety Code, Chapter 361, Subchapter R, and in this subchapter.

Adopted April 19, 1995

Effective May 17, 1995

**§330.962. Notice to Buyers, Lessees, and Occupants.**

(a) An owner of land that overlies a CMSWLF unit shall prepare a written notice stating the former use of the facility, the legal description of property, notice of the restrictions on the development or lease of the land imposed by this subchapter and the Health and Safety Code, Chapter 361,

Subchapter R, and the name of the owner. The owner shall file for record the notice in the real property records of the county in which the property is located.

(b) An owner of land that overlies a CMSWLF unit shall notify each lessee and each occupant of a structure that overlies the unit of:

- (1) the land's former use as a landfill; and
- (2) the structural controls in place to minimize potential future danger posed by the CMSWLF.

Adopted April 19, 1995

Effective May 17, 1995

**§330.963. Lease Restrictions.**

This section is not intended to require that owners and lessees of property initiate investigations for CMSWLFs. A person may not lease or offer for lease property that overlies a CMSWLF unit unless:

- (1) existing development on the land is in compliance with this subchapter; or
- (2) the person gives notice to the prospective lessee of what is required to bring the property and any development on the property into compliance with this subchapter and the prohibitions or requirements for future development imposed by this subchapter and by any development permit issued for development of the property under this subchapter.

Adopted April 19, 1995

Effective May 17, 1995

Adoption of new §§330.951-330.963

Date Adopted: April 19, 1995

Date Filed with the Secretary of State: April 26, 1995

Date Effective: May 17, 1995